DTMB
Technology, Management & Budget

Michigan's Public Safety Communications System

It's not just a radio……

Michigan's Public Safety Communications System

- Michigan's statewide 800 MHz digital trunked radio communications network providing Public Safety and citizens with stable, secure, and reliable communications
- Providing interoperability between local, state, federal, and private first responders.
- Based on national standards and leading technology
- 97% all weather <u>mobile</u> radio coverage for the entire State
- Largest trunked communications system in North America, second in the world

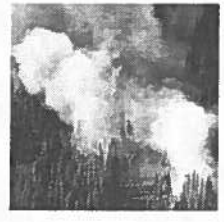
Service to Citizens

From unplanned emergencies…


The Blackout


I-96 Pile Up

Floods


Wildfires


Riots


Enbridge Oil Spill

- Increased/Enhanced interoperability for first responders
- Shared Services and Consolidation Savings across government
- Reductions:
  - Parallel infrastructure
  - Multiple disparate radios
  - Operating costs
  - Hardware and software costs
  - Maintenance costs

… to planned events


MIS - NASCAR

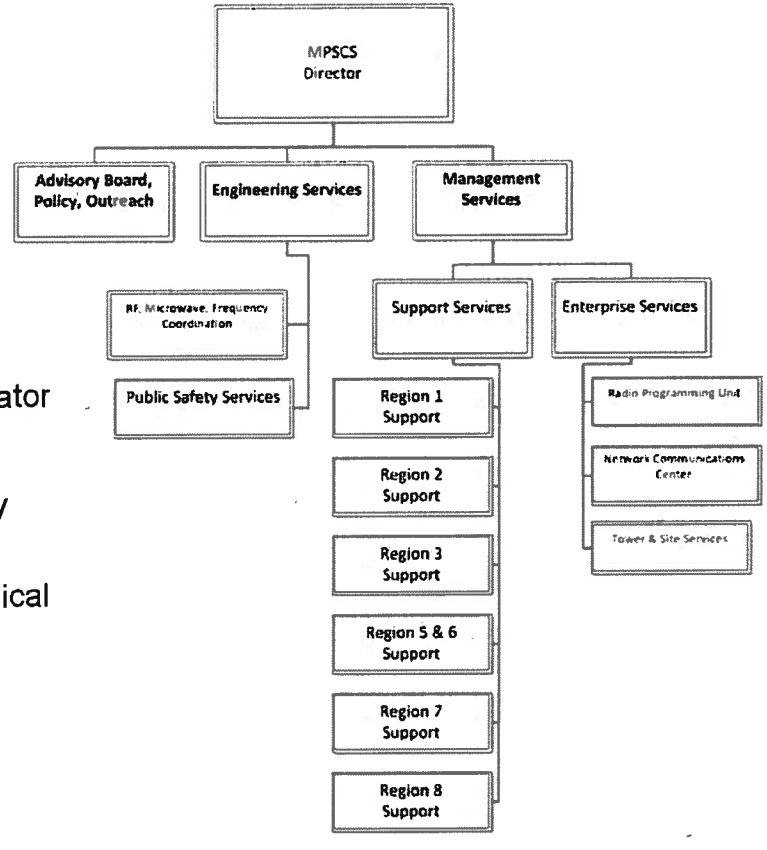

All Star Game

Super Bowl


NCAA Tournament

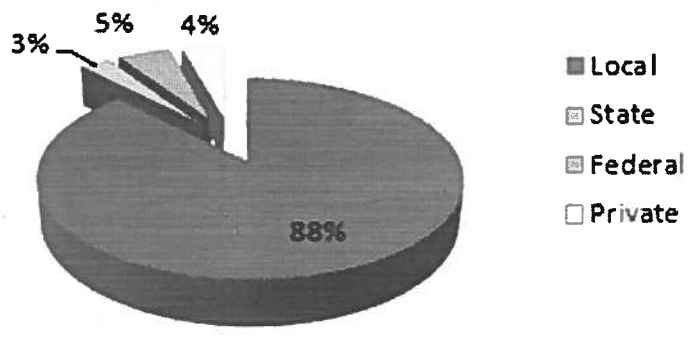
Operations

- Staff - Diverse skills and broad expertise
- 24x7 Operations - staffed and on-call
- Geographically dispersed workforce
  - Based on infrastructure and client needs
- Represented and non-represented staff
- Professional requirements and certifications
  - Engineering
  - Certified "Tower Climbing Safety and Rescue", HVAC, Generator
- Evolution in staff skills and expertise
  - Radio -> PC -> Programming -> Networking -> Cyber Security
  - Only agency with Radio Technicians
  - Only IT function within DTMB requiring Electrical and Mechanical Engineers
- Responsibilities:
  - MPSCS Infrastructure
  - State facilities and vehicles
  - Local, Federal and Private agency support
- 30% fewer staff since 2002



Evolution

- Public Safety users spanning local, state, federal, and private agencies.
- Border interoperability with Wisconsin, Ohio, and Indiana
  - Canada (future capability for international system to system integration)
- Forerunner of Shared Services in DTMB



MPSCS User by Agency Type

2002	2011
8,000 mobile and portable radios	58,394 mobile and portable radios
4 Master sites	7 Master sites
180 tower sites	244 tower sites (64 sites are locally owned but integrated into the MPSCS)
6 Dispatch Centers 38 console positions	39 Dispatch Centers 203 console positions
2 million/month Push-To-Talks (PTT)	8.7 million/month Push-To-Talks (PTT)
152 agencies with interoperable voice and data communications	1339 agencies with interoperable voice and data communications
440 mobile computers	820 mobile computers

- 86% of PTTs in 2011 were local agencies
- 846 Multi-Jurisdictional events in 2011
- 54 patched locally operated radio systems

The Users

All Branches of State Government:

- Executive, Judicial, and Legislative
- MSP,DNR, MDOT, DOC, DHS, DCH, Courts, Legislative Security, etc.

Local Public Safety Agencies:

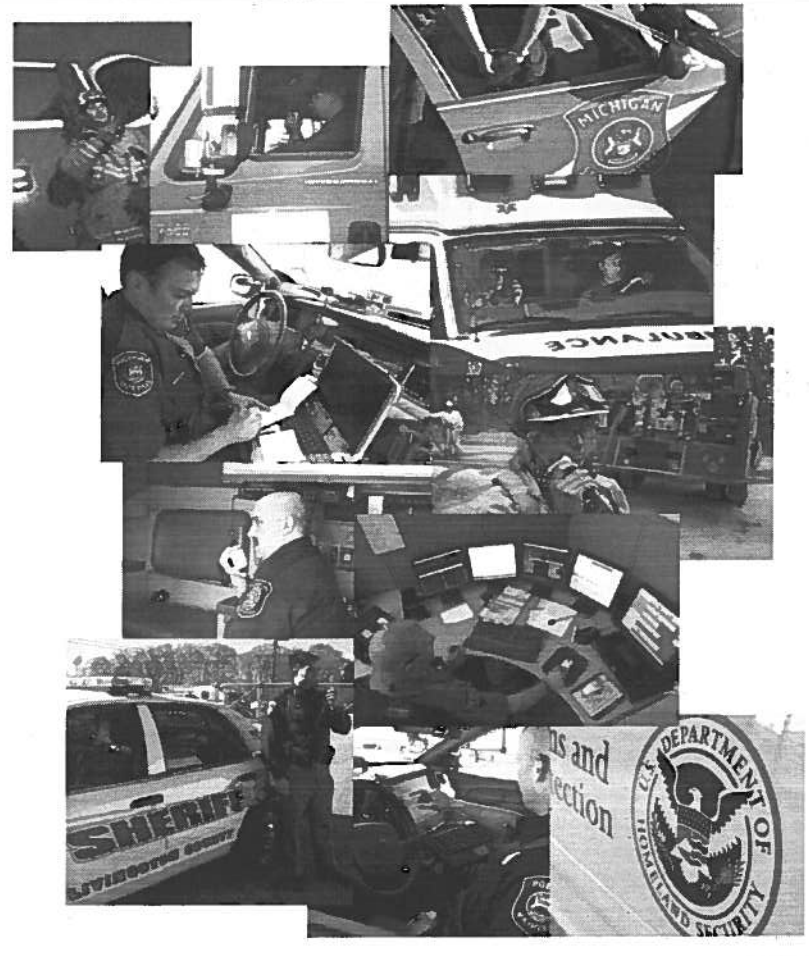
- Township, City and County
- Police, Fire, EMS, Emergency Management, Road Commission, etc.

Federal Public Safety Agencies:

- ATF, Border Patrol, Coast Guard, DHS, FBI, Forest Service, US Marshall, etc.

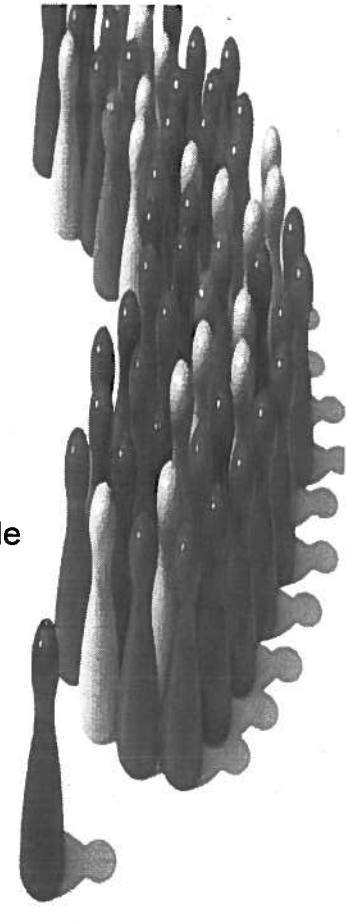
Private Emergency Responder:

- Red Cross, EMS, Transit Authority, University Security, Rail Road Police, Utility Companies, Energy Plants

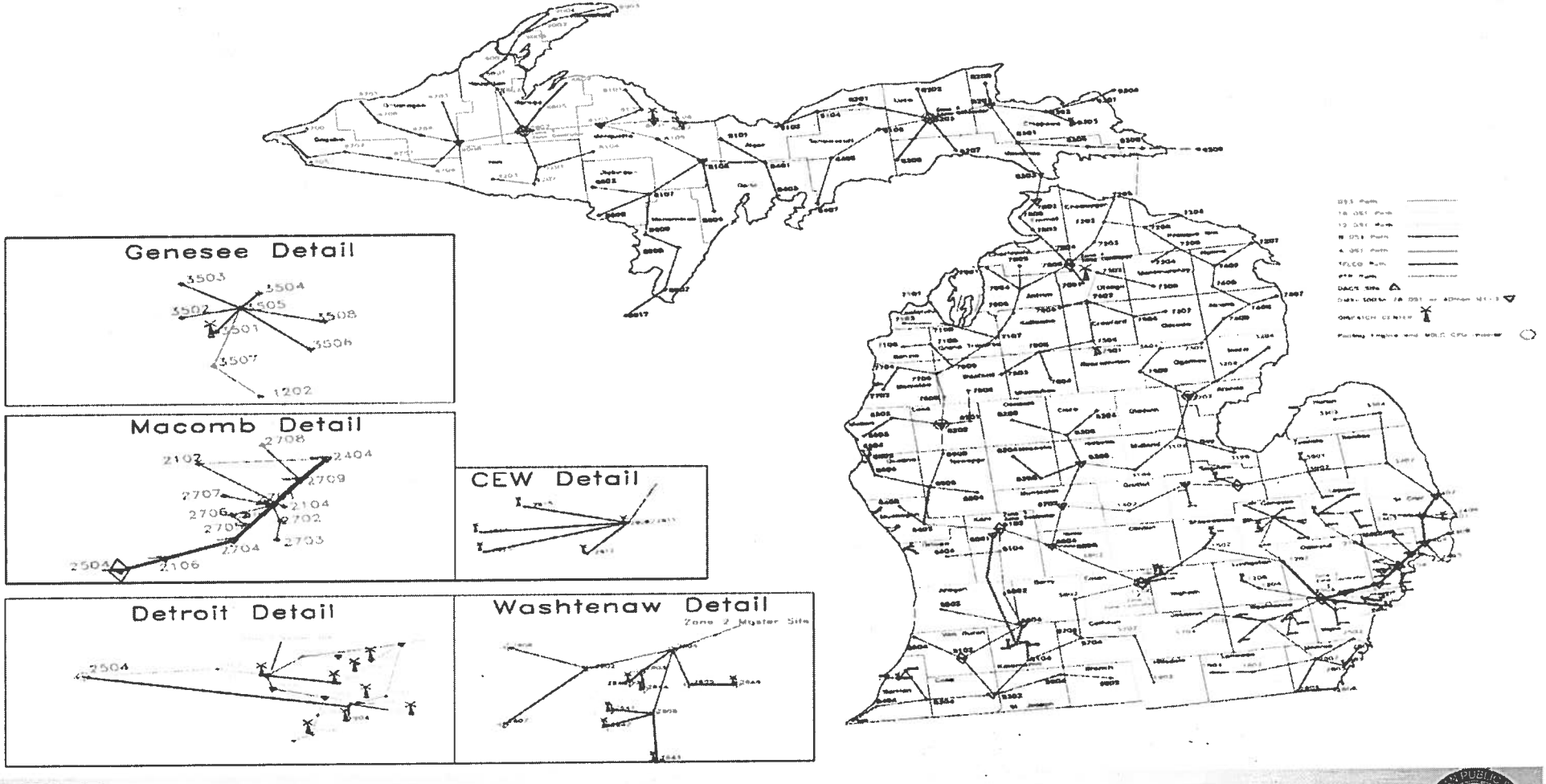


Recognized Leader

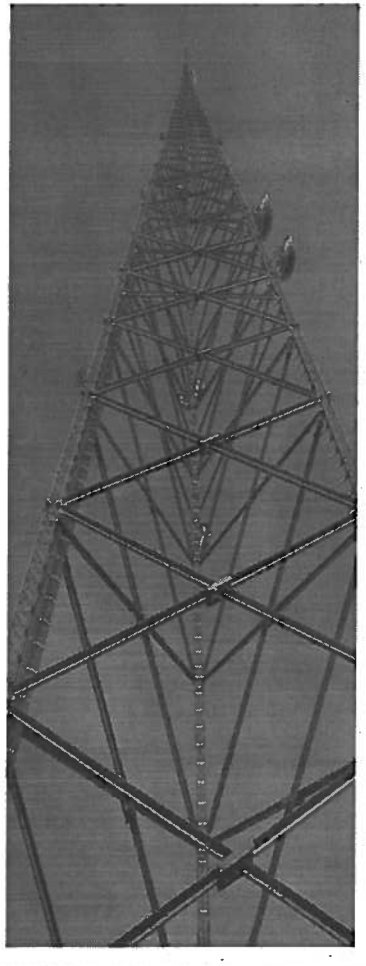
- Internationally Recognized and Nationally Identified
  - Lessons Learned provided to other countries, states, and municipalities
- Actively Involved:
  - Michigan **Homeland Security Advisory Committee** (HSAC)
  - Michigan Public Safety Interoperability Board (MPSIB)
  - **FCC** – Emergency Response Interoperability Center (ERIC) Advisory Committee for Public Safety Broadband, National Broadband Plan Committee
  - **FEMA** - Regional Emergency Communications Committee Working Group (RECCWG)
    - FEMA Region 5 States (Michigan, Illinois, Wisconsin, Minnesota, Indiana, Ohio)
  - **Department of Homeland Security** (DHS), Office of Emergency Communications (OEC) - Wireless Broadband Technology Working Group
  - **Department of Commerce**, Public Safety Communications Research Program - Nationwide Public Safety Broadband Network (Governance and Standards Development)
  - **SAFECOM** – Department of Homeland Security (DHS) Project 25 Compliance Assessment Program committee
  - **SEARCH** - National Interoperable Emergency Communications (NIEC) Advisory Board
  - **Association of Public Safety Communications Officials** (APCO)



Tower Locations

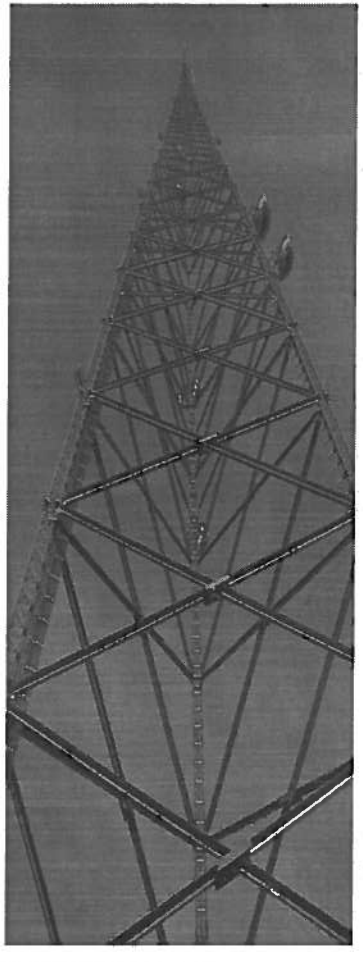


Tower Colocations - Documents



- Michigan Public Safety Communications System Policies and Procedures
  - http://www.michigan.gov/mpscs/0,4640,7-184-42060---,00.html
  - Policy 4.1.7 MPSCS Member and Non-Member Colocation Procedure
    - Covers the procedure and areas of project responsibility
  - Policy 1.1.10 MPSCS Colocation Tower Site Access
  - Policy 1.1.7 Tower Usage Fee
- MPSCS Colocation forms (current use for Public Safety only)
  - Application for Installation of Public Safety Communications Equipment on MPSCS Tower/Site (two part form)
    - Documented specifics from prospective entity for colocation on MPSCS tower(s)
  - Colocation Installation Plan
    - Internal MPSCS documented plan for all MPSCS staff to follow based on specifics provided by prospective collocating agency
- 49 Agencies collocating on 168 towers
  - 36 Local agencies for fire paging, private radio and mobile data
  - State of Wisconsin, FBI, FAA, NOAA, and National Parks
  - Coast Guard collocating on 18 towers providing enhanced water rescue on great lakes

Tower Colocations - Process



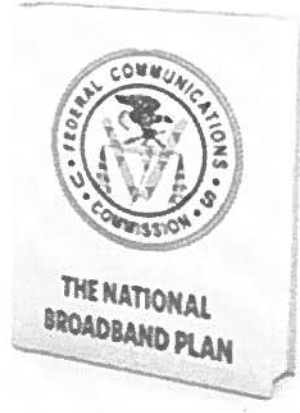
- Current process for MPSCS tower colocations

Steps	Client	MPSCS	Colocation Project Steps
1	X		Client Return Part 1, and Part 2 of Colocation Application form
2	X		Client Return Electronic One Line System Drawing of planned colocation
3	X	X	MPSCS Receive Application Fee ($500)
4		X	MPSCS Internal Review of Project request
5	X	X	Client and MPSCS Project Review/Site Walk. Determine equipment and antenna placement
6	X		Return Site Drawing (if co-locating a shelter)
7		X	MPSCS Process Client for Unescorted Site Access – Criminal Justice Information System (CJIS) background check (must be completed prior to site construction)
8	X		Client Return Signed Co-Location License Agreement or Inter Agency Agreement (prior to project construction)
9	X	X	MPSCS/Client Perform Structure Analysis (client responsible for costs, MPSCS to review)
10	X		Client Return Electronic Tower Drawings
11	X		Client to Send Proof of Insurance for Project
12	X		Client to Send Verification that Tower Crew is Rescue Certified
13		X	MPSCS Send Notice to Begin Construction (e-mail notice)
14		X	MPSCS and Client Review Installation, Install Must Comply With MPSCS "Standards of Work"
15		X	MPSCS Tower and Field Service techs sign off on Project after tower/work inspection completed
16	X	X	Project Complete (MPSCS E-Mail Client)
17		X	Notify DTMB billing for new colocation(s) once Project is complete

National Broadband Plan

- Developed by the FCC as directed by congress in 2009 to ensure every American has access to broadband capability.
  - http://www.broadband.gov/plan/

- National Purposes
  - Economic Opportunity – Chapter 13
  - Education – Chapter 11
  - Health Care – Chapter 10
  - Energy and Environment – Chapter 12
  - Government Performance – Chapter 14
  - Civic Engagement – Chapter 15
  - Public Safety – Chapter 16



Opportunities

- Leveraging taxpayer investments
  - Education
  - Commerce
  - Reduce tower duplicity

- Public-Private Partnerships
  - Rural Broadband
  - Healthcare
  - Utility Companies
  - Commercial two-way radio

- Carriers are adding new sites in rural and urban to provide for demand of mobile broadband service
- Between 2010 to 2011 data use/cell phone increased more than 85%

Challenges

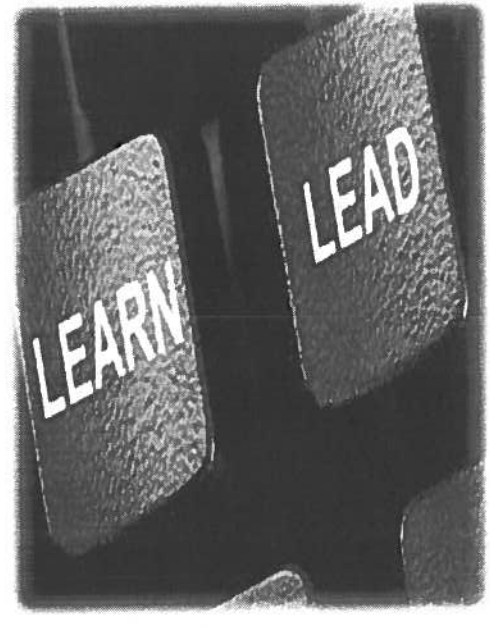
- **MPSCS Bonding**
  - Current bonding type is "Nontaxable" bonds
  - Two Options
    - 1) Refinance to "Taxable" bonds
    - 2) Payoff existing bonds
- **Legislative Support**
  - Amend 1929 PA 152 section 3 (MCL 28.283)
  - Bond refinance from "Nontaxable" to "Taxable" bonds
- **Federal Guidance and Directives**
  - Federal Communications Commission (FCC)
    - Declatory Ruling requires no more than 90 day review period for colocation request
    - National Broadband Plan

RULES

1. YOU CAN....
2. YOU CAN'T...
3. YOU CAN....
4. YOU CAN'T

Following the Lead

- Michigan can follow the success in peer states:
  - North Carolina provided colocation access to 39 towers of their statewide public safety system for expansion of broadband
  - Pennsylvania provided access to 150 towers of its statewide public safety system for cellular and broadband expansion
  - Illinois provided colocation on the Illinois Tollway towers for mixed use
  - Minnesota, Florida, California, Nevada, Ohio, Tennessee all have similar approaches for colocations on government owned infrastructure



- Effort was suggested in 2009 as an opportunity for rural broadband in Michigan with the federal Broadband Technology Opportunities Program (BTOP) - Declined

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